INTERNATIONAL JOURNAL OF INFORMATIVE & FUTURISTIC RESEARCH (IJIFR)
ISSN: 2347-1697
VOLUME 13||ISSUE 2|| OCTOBER 2025
An Open Access, Peer Reviewed , Globally Indexed & Refereed International Research Journal
Estd Year: 2013 || Website: www.ijifr.org || Email: editors@ijifr.org
Impact Factor=8.057, Index Corpenicus Value:6.62
Published By: Pioneering Journal Publishers

INFLUENCE OF SOLVENCY AND LIQUIDITY ON THE FINANCIAL PERFORMANCE OF SELECTED AUTOMOBILE COMPANIES IN INDIA

Vishnu K*[1] and Dr. Jeothilakshmi SK [2]
Research Scholar, Government Arts &Science College Kozhikode, Kerala, India*[1]
Associate Professor, PG Department of Commerce, Sree Narayana Guru College, Chelannur, Kozhikode, Kerala, India.[2]

ABSTRACT: ***This study investigates the impact of liquidity and solvency on the financial performance of selected automobile companies for a period from 2015 to 2024. The sample includes the top eight automobile companies in India ranked by market capitalization and listed on the National Stock Exchange (NSE). The data were analyzed using Correlation and multiple linear regressions. The study found that liquidity ratios and solvency ratios are correlated with financial performance (ROA). Notably, the Shareholders' Equity Ratio (ER) exhibits a significant positive correlation with Return on Asset (ROA) and the Debt-Equity Ratio (DER) showed a strong negative correlation with ROA, indicating that higher leverage diminishes financial performance. The result of regression analysis indicated that solvency ratios significantly influence financial performance, specifically, Shareholders' Equity Ratio (ER) showing a strong effect on ROA. This study provides valuable insights for investors, policymakers, and other stakeholders regarding the financial health of companies.***

KEYWORDS: ***Liquidity, Leverage, Financial Performance, Automobile companies***

PAPER CITATION:
Vishnu, K. & Jeothilakshmi, S.K. (2025) *: "Influence Of Solvency And Liquidity On The Financial Performance Of Selected Automobile Companies In India", International Journal of Informative & Futuristic Research (IJIFR), Vol.(13) (2), October 2025, pp. 196 – 203*
DOI: ***https://doi.org/10.64672/IJIFR/25.10.13.02.004***

CC BY-NC-SA 4.0 ***The research paper is published under License CC- BY –NC –SA 4.0 Creative Commons Attribution-Non Commercial- ShareAlike 4.0 International Public License. All rights reserved to the author's & Publisher.***

1. INTRODUCTION

The global automobile sector has undergone a revolution over the past two decades, including the industry 4.0 revolution and the electric vehicle (EV) revolution. India is the fourth largest automobile manufacturer in the world. The Indian automobile industry boasts a robust domestic and global market, serving as a key pillar of India's economic growth. It accounts for 7.1% of the national Gross Domestic Product (GDP) and 49% of the manufacturing GDP [1]. There is an increasing demand to understand the strengths and weaknesses of the automobile industry from a financial perspective. There are several factors which influence the profitability of companies, Solvency and liquidity among those which affect profitability, but the effect may differ among industries.

Solvency and liquidity analysis are commonly employed by researchers to assess the financial health of companies. Liquidity ratios measure companies' ability to pay their current liabilities out of their current assets. Therefore, it is used to measure the short-term financial position of company. Current ratio, quick ratio and super quick ratio are the important liquidity ratios.

Solvency ratios measure the company's ability to meet their long-term obligations. Solvency ratio is used to analyze long term financial position of firm. Debt equity ratio, debt ratio, capital gearing ratio, shareholders equity ratio and interest coverage ratio are the important solvency ratios.

There are several ratios used to measure a company's financial performance. Return on Assets (ROA), Return on Equity (ROE), Return on Investment (ROI), and Net Profit Margin (NPM) are commonly used ratios for this purpose.

The primary objective of this study is to analyze how solvency and liquidity affect the financial performance of the automobile industry. This research offers insights to investors, stakeholders, and policymakers for informed decision-making.

2. OBJECTIVES OF THE STUDY

[1] To examine the relationship between liquidity and solvency ratios and the financial performance of automobile companies

[2] To evaluate the impact of liquidity ratios and solvency ratios on financial performance.

3. HYPOTHESIS

To analyze the relationship between liquidity and solvency on financial performance, the study used following research hypothesis:

[1] **H1:** there is significant relationship between liquidity and financial performance of automobile companies.

[2] **H2:** there is significant relationship between solvency and financial performance of automobile companies.

[3] **H3:** Liquidity ratios have significant impact on the financial performance of automobile companies.

[4] **H4:** Solvency ratios have significant impact on the financial performance of automobile companies.

4. REVIEW OF LITERATURE

The influence of solvency and liquidity on financial performance has been highly explored in previous studies. The studies were conducted in different industries across different geographies and findings remain mixed. For analyzing the financial performance Return on Assets (ROA), Return on Equity (ROE), Return on Investment (ROI), and Net Profit Margin (NPM) are commonly used in previous studies. Liquidity and solvency are examined using Current Ratio (CR), Quick Ratio (QR), Debt-Equity Ratio (DER), Debt-Asset Ratio (D/A), and Interest Coverage Ratio (ICR). To analyze the literature, studies are classified according to different theme as flows.

4.1 Liquidity and financial performance

Liquidity measures the ability of firm to meet its short-term obligations. Multiple studies have highlighted the role of liquidity on financial performance of companies. [2] concluded that quick ratio had a negative impact on IT companies Return on Equity (ROE). [3] also found that higher liquidity ratio reduces the profitability of Indian SME. [4] studied the impact of financial ratios on the financial performance of a chemical company and found that liquidity positively influence the performance. [5] examined two pharmaceutical companies namely Ajanta Pharma and Piramal Pharma and found that Ajanta Pharma's current ratio (CR) and quick ratio (QR) positively influence the financial performance but it is not same in case of Piramal Pharma. [6] found a complex relationship, current ratio (CR) positively influences return on capital employed (ROCE) but quick ratio (QR) negatively influences the same.

4.2 Solvency and Financial Performance

Solvency measures the ability of firm to meet its long-term obligations. Several studies examined the influence of solvency on financial performance, but the results were different. [7] found that solvency ratios such as Debt-Equity Ratio (DER), Debt-Asset Ratio (D/A) had negatively correlated with profitability. Similarly, [8] revealed that leverage and profitability are negatively correlated in the case of Steel Authority of India Ltd. [9] examined the relationship between solvency and profitability of software companies and found that leverage have a positive relation with Return on Investment (ROI). [10] revealed that Return on Investment (ROI) and liquidity negatively related with leverage of automobile companies.

4.3 Automobile Industry

Certain studies specifically focused on automobile industry. [11] found that quick ratio (QR) positively influences the profitability, but inventory turnover negatively influences the profitability of Indian automobile companies. [12] used Z score analysis and found that Indian automobile firms specifically Maruti Suzuki consistently maintained strong financial health.

5. RESEARCH GAP

Profound studies conducted to examine the influence of solvency and liquidity on financial performance across different industries and different geographies. Most of the studies were conducted in Pharma, Steel, FMCG industries, only a few studies examined the automobile industry. Despite several studies, there is paucity of specific knowledge on role of liquidity and solvency on the financial performance of selected automobile companies in India. This study aims to fill this research gap in literature and offers insights to investors, stakeholders, and policymakers for informed decision-making. This study aims to find answers to the following research questions:

[1] What is the relationship between liquidity and solvency on the financial performance of automobile companies?
[2] How do liquidity ratios and solvency ratios impact the financial performance of automobile companies?

6. RESEARCH METHODOLOGY

6.1 Research design

This study is quantitative and analytical in nature which examines the influence of liquidity and solvency on financial performance of selected automobile companies in India.

6.2 Data source

The sample consists of top 8 automobile companies listed on NSE. The Sample companies were selected on bases of market capitalization as on 1 September 2025. Table 1 presents the top eight automobile companies in India ranked by market capitalization. These companies hold a significant market share in the Indian automobile industry.

Table 1: List of automobile companies

Companies	Market cap
Maruti Suzuki India Ltd.	4,81,822
Mahindra & Mahindra Ltd.	4,46,414
Tata Motors Ltd.	2,63,356
Bajaj Auto Ltd.	2,51,318
Hyundai Motor India Ltd.	2,08,067
Eicher Motors Ltd.	1,88,563
TVS Motor Company Ltd.	1,65,919
Hero MotoCorp Ltd.	1,06,066

Source: www.nseindia.com

6.3 Variables

This study mainly examines the influence of liquidity and solvency ratio on financial performance of sample companies. Table 2 shows the independent and dependent variables of this study.

Table 2: Variables of the study

Independent variable/ Dependent variable		Variables	Formula
Independent variable	Liquidity ratios	Current ratio (cr)	Current Assets/ Current Liabilities
		Quick ratio (QR)	Current Assets−Inventories/ Current Liabilities
	Solvency ratios	Debt equity ratio (DER),	Total Debt/ Shareholders equity
		Interest Coverage Ratio (ICR)	Earnings Before Interest and Taxes (EBIT)/ Interest expense
		Shareholders equity ratio (ER)	Shareholders' Equity / Total Assets
Dependent variable	profitability ratio	Return on assets (ROA)	Net income/ Total assets *100

6.4 Procedure

The study was based on secondary data collected from annual report of companies, stock exchange databases and reliable financial websites for a period of 10 years from 2015 to 2024.

6.5 Data Analysis

SPSS and excel were used for analyzing the data. Descriptive statistics were used to understand the trend of variables. Correlation analysis was conducted to analyze the association among the variables studied. Multiple linear regression analysis was employed to examine the impact of liquidity and solvency on financial performance. The model was specified as:

$$ROA_{it}=\beta_0+\beta_1 CR_{it}+\beta_2 QR_{it}+\beta_3 DER_{it}+\beta_4 ICR_{it}+\beta_5 ER_{it}+\epsilon_{it}$$

ROA_{it} = Return on Assets for company *i* in year *t* (dependent variable – financial performance)

CR_{it} = Current Ratio (liquidity ratio)

QR_{it} = Quick Ratio (liquidity ratio)

DER_{it}= Debt-to-Equity Ratio (solvency ratio)

ICR = Interest Coverage Ratio (solvency ratio)

ER_{it}= Shareholders' Equity Ratio (solvency ratio)

B_0 = Intercept

B_1……β_5 = Coefficients measuring impact of each independent variable on ROA

ϵ_{it}= Error term

7. ANALYSIS AND DISCUSSION

7.1 Descriptive Statistics

Table 2 shows the descriptive statistics of dependent and independent variables of this study. Total observations taken as 80 because 8 companies 10 years data were taken. Descriptive statistics indicate that average return on assets (ROA) was 10.37 during the study period and the standard deviation was 7.46. Maximum return on assets (ROA) was 27.09 and minimum return on assets (ROA) was -9.38 during the study period. Average current ratio (CR) during the period was 1.35 and .69 standard deviation. Minimum current ratio was 0.42 and maximum was 3.6. Average quick ratio (QR) was 1.09 with 0.67 standard deviation. Minimum quick ratio was 0.19 and maximum was 3.29. Average debt equity ratio was 0.72 and standard deviation was measured as 1.04. The maximum and minimum debt equity ratio (DER) was 3.96 and -0.008 respectively. Average interest coverage ratio (ICR) was 324.41 and standard deviation was 889.64. Maximum interest coverage ratio (ICR) during the period was 5198.51 and minimum was -11.14. Average shareholders' equity (SER) is 52.32% and standard deviation is 24.42. Maximum shareholders equity (ER) is 85.04 and minimum shareholders equity is 13.84.

Table 2: Descriptive Statistics

Variables	Observations	Mean	Standard Deviation	Maximum	Minimum
ROA	80	10.37	7.46	27.09	-9.38
CR	80	1.35	0.69	3.6	0.42
QR	80	1.09	0.67	3.29	0.19
DER	80	0.72	1.04	3.96	-0.008
ICR	80	324.41	889.64	5198.57	-11.14
ER	80	52.32	24.42	85.04	13.84

Source: excel

4.2 Correlation Analysis

Results of Pearson correlation analysis are shown in table 3. Pearson correlation analysis was conducted to measure the relationship between liquidity and solvency on financial performance of selected automobile companies. The results indicated that liquidity ratios, including the current ratio (CR) and quick ratio (QR), exhibited a positive relationship with return on assets (ROA), this results contrary to the results of [2][3]. Specifically, the current ratio (CR) showed a positive correlation with ROA ($r = .421$, $p < .01$) and quick ratio (QR) showed a positive correlation with ROA ($r = .432$, $p < .01$). The findings support Hypothesis 1 and confirm that there is significant relationship between liquidity and financial performance of automobile companies.

With respect to solvency, debt equity ratio (DER) strongly negatively correlated with ROA (r = –.716, p < .01), the results indicating that higher leverage reduces the financial performance of selected automobile companies, this result is similar to the result of [7] and [8] and contrary to the result of [9]. The interest coverage ratio positively correlated with ROA (r = .385, p < .01) and shareholders' equity ratio has a significant positive correlation with ROA (r = .773, p < .01). These findings accept Hypothesis 2 and confirm that there is significant relationship between solvency and financial performance of automobile companies.

Table 3: Correlation Matrix

		CR	QR	DER	ICR	ER	ROA
CR	**Pearson Correlation**	1	.997	-.478	.310	.544	.421
	Sig. (2-tailed)		.000	.000	.005	.000	.000
	N	80	80	80	80	80	80
QR	**Pearson Correlation**	.997	1	-.477	.328	.554	.432
	Sig. (2-tailed)	.000		.000	.003	.000	.000
	N	80	80	80	80	80	80
DER	**Pearson Correlation**	-.478	-.477	1	-.248	-.855	-.716
	Sig. (2-tailed)	.000	.000		.027	.000	.000
	N	80	80	80	80	80	80
ICR	**Pearson Correlation**	.310	.328	-.248	1	.381	.385
	Sig. (2-tailed)	.005	.003	.027		.000	.000
	N	80	80	80	80	80	80
ER	**Pearson Correlation**	.544	.554	-.855	.381	1	.773
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	80	80	80	80	80	80
ROA	**Pearson Correlation**	.421	.432	-.716	.385	.773	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	80	80	80	80	80	80

Source: spss

7.3 Regression analysis

Table 4 shows the result of regression model Summary and ANOVA analysis. regression analysis was conducted to measure the impact of liquidity and solvency ratios on financial performance of selected automobile companies. The result indicated that regression model was significant (F (5, 74) = 24.81, p < .001) with R^2 = .626, indicating that 62.6% variance in ROA was explained by independent variables.

Table 4: Model Summary and ANOVA

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	F (5,74)	Sig
1	.791	.626	.601	4.73873	24.814	.000[b]

Note. Dependent variable: Return on Assets. Predictors: Current Ratio, Quick Ratio, Debt-Equity Ratio, Interest Coverage Ratio, Shareholders' Equity Ratio.

Source: spss

Table 5 indicates the coefficient of liquidity and solvency ratios. The result explain that the liquidity ratios such as current ratio (.414) and quick ratio (.427) did not significantly affect the ROA. This revealed that liquidity did not affect the financial performance of sample firms. Therefore, H3 is rejected. In contrast solvency ratios had a mixed result. Shareholders equity (p = .002) had a significant positive effect on ROA, while interest coverage ratio (p = .061 showed a marginal positive effect on ROA but debt equity ratio (p = .064) had a marginal negative effect on ROA. This indicated that solvency ratios had an impact on financial result of sample companies. Therefore, H4 is accepted.

Table 5: Regression coefficient for liquidity and solvency ratios

Predictor	B	Std. Error	Beta	t	Sig.
(Constant)	5.445	4.132		1.318	.192
CR	-8.153	9.925	-.749	-.821	.414
QR	8.187	10.248	.735	.799	.427
DER	-1.904	1.014	-.267	-1.878	.064
ICR	.001	.001	.120	1.497	.139
SER	.152	.047	.500	3.243	.002
Note. Dependent variable: Return on Assets.					

Source: spss

8. CONCLUSION AND IMPLICATIONS

The different stockholders of companies are always interested to know the strengths and weaknesses of companies. This study examines the relationship and impact of liquidity and solvency on financial performance of selected automobile. Liquidity ratios such as current ratio and quick ratio, solvency ratio such as debt equity ratio (DER), shareholders equity ratio (ER) and interest coverage ratio (ICR) are taken as independent variable. Financial performance is measured using return on assets (ROA). The correlation analysis concludes that there exists a relationship between liquidity ratios and solvency ratios on financial performance. Liquidity ratios such as current ratio (CR) and quick ratio (QR) are positively related to ROA. One of the solvency ratios, specifically debt equity ratio (DER) strongly negatively correlated to ROA; this means that higher leverage reduces the financial performance of companies. Shareholders equity ratio (ER) and interest coverage ratio (ICR) are positively correlated with ROA. The regression analysis concludes that solvency ratios significantly affect the financial performance of sample companies. Specifically, shareholders equity ratio (ER) had a significant impact on ROA. This research findings offer insights into investors, stakeholders, and policymakers for informed decision-making

9. LIMITATIONS OF THE STUDY AND SCOPE FOR FUTURE RESEARCH

The study has several limitations. Firstly, this study is limited to the top 8 share market listed automobile companies; this limits the generalization of findings to other sectors. Secondly the study is based on secondary data, quality of this depends on the reporting quality. Thirdly, only selected liquidity, solvency and profitability ratios are included in this study. Fourthly many other internal factors may also influence the financial performance of companies. The study also proposed future research directions in this area. Future studies could involve larger sample sizes or encompassing different industries. Subsequent studies could include more financial ratio.

10. REFERENCES

[1] A. Industry, “Powering India’s participation in Global Value Chains,” no. April, 2025.
[2] F. U. Ansari, “The Impact of Profitability, Leverage, Efficiency and Liquidity on Return on

Equity: The Case of Indian IT Companies," *IUP J. Account. Res. Audit Pract.*, vol. 19, no. 2, pp. 23–34, 2020.

[3] B. Mohanty and S. Mehrotra, "Relationship between Liquidity and Profitability: An Exploratory Study of SMEs in India," *Emerg. Econ. Stud.*, vol. 4, no. 2, pp. 169–181, 2018, doi: 10.1177/2394901518795069.

[4] H. Borhan, R. Naina Mohamed, and N. Azmi, "The impact of financial ratios on the financial performance of a chemical company," *World J. Entrep. Manag. Sustain. Dev.*, vol. 10, no. 2, pp. 154–160, 2014, doi: 10.1108/wjemsd-07-2013-0041.

[5] A. Kumar, P. Namita, and R. Chaitrali Gijare[3], "Liquidity and Profitability Trade-off: A Study of Indian Pharmaceutical Companies," vol. III, no. 1, pp. 42–56, 2018, [Online]. Available: https://ssrn.com/abstract=3202098

[6] S. Dsouza and H. Habibniya, "The Impact of Liquidity on the Profitability of Nifty Pharma Index (NSE India).," *IUP J. Account. Res. Audit Pract.*, vol. 20, no. 4, pp. 15–31, 2021, [Online]. Available: https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=154703750&site=ehost-live

[7] C. Haresh Kothari, S. Sodha, and A. Professor, "the Impact of Liquidity and Leverage on Profitability: Evidence From Selected Pharmaceutical Companies of India," *GAP GYAN- An Int. Peer-Reviewed Open Access J. Soc. Sci.*, vol. 1, no. 1, pp. 65–71, 2018, [Online]. Available: http://www.gapjournals.org

[8] M. Yameen and A. Pervez, "Impact of Liquidity , Solvency and Efficiency on Profitability of Steel Authority of India Limited," *Int. J. Account. Res.*, vol. 2, no. 12, pp. 32–41, 2016, doi: 10.12816/0033281.

[9] V. Sadhishkumar, "The Relationship Between Liquidity , Leverage And Profitability : An Exploratory Study Of Indian Software Companies," no. December 2021, pp. 2–9, 2022.

[10] J. Abey and R. Velmurugan, "Financial leverage: A study based on Indian automobile industry," *Int. J. Manag. Bus. Res.*, vol. 9, no. 1, pp. 108–114, 2019.

[11] S. Hiran, "Financial Performance Analysis of Indian Companies Belongs to Automobile Industry with Special Reference to Liquidity & Leverage," *Int. J. Multidiscip. Curr. Res.*, vol. 4, pp. 39–51, 2016, [Online]. Available: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/http://ijmcr.com/wp-content/uploads/2016/01/Paper1039-51.pdf

[12] M. Gowri & Sekar, "Assessing the Financial Health of Select Automobile Companies in India: A Quantitative approach Using the Z-Score Multi-discriminant Financial Analysis Mode," *Gt. Lakes Her.*, vol. 13, no. 1, pp. 1–20, 2019, [Online]. Available: https://www.greatlakes.edu.in/herald/pdfs/march-2019/Article-1.pdf